AMENDMENTS TO THE CLAIMS

Claims 1-62 (Cancelled)

63. (Currently Amended) A mobile communication system having a turbo encoder having input data frames of variable size, comprising:

a processor for determining a number and a size of sub frames which can be generated from the ~~one~~ input data frame of variable size, according to a size of the input data frame; and

a turbo encoder for turbo encoding ~~the~~ each of the sub frames separately to output encoded sub frames ~~input data frame in accordance with said determined size of the sub frame~~.

64. (Currently Amended) The mobile communication system as claimed in claim 63, further comprising a channel interleaver for interleaving an encoded data frame, wherein the encoded data frame is constructed by concatenating ~~the output of~~ the encoded sub frames ~~turbo encoder for the input data frame~~.

65. (Cancelled)

66. (Previously Presented) The mobile communication system as claimed in claim 63, wherein the processor determines to segment the input data frame when the size of the input data frame is 20480 bits.

67. (Previously Presented) The mobile communication system as claimed in claim 63, wherein the number and size of the sub frames is determined by a permissible delay.

68. (Cancelled)

69. (Previously Presented) The mobile communication system as claimed in claim 63, wherein the number and size of the sub frames is determined by a permissible error rate.

Claims 70-71 (Cancelled)

72. (Currently Amended) A channel encoding method for a mobile communication system having a turbo encoder having input data frames of variable size, comprising the steps of:

determining a number and a size of sub frames that can be generated from ~~one~~ the input data frame of variable size when the size of the input data frame is greater than a predetermined value;

segmenting the input frame into the determined number of sub frames; and

encoding each of the sub frames separately to output encoded sub frames ~~individually~~.

73. (Previously Presented) The channel encoding method as claimed in claim 72, further comprising the steps of:

constructing an encoded input data frame by concatenating the output of the turbo encoder for the input data frame; and

channel interleaving the encoded input data frame.

74. (Cancelled)

75. (Previously Presented) The channel encoding method as claimed in claim 72, wherein the input data frame is segmented ~~block~~ when the size of the input data frame is 20480 bits.

76. (Previously Presented) The mobile communication system as claimed in claim 72, wherein the number and the size of sub frames is determined by a permissible delay.

77. (Cancelled)

78. (Previously Presented) The channel encoding method as claimed in claim 72, wherein the number and the size of sub frames is determined by a permissible error rate.

79. (Currently Amended) A channel encoding method for a mobile communication system having a turbo encoder having input data frames of variable size, comprising the steps of:

comparing a bit number of ~~one~~ the input data frame input into the turbo encoder with a predetermined value;

deciding to segment ~~a~~ the input data frame into sub frames if the bit number is more than the predetermined value; and

turbo encoding ~~data of a~~ each of the sub frames separately ~~sub frame which is segmented from the input data frame~~.

80. (Previously Presented) The channel encoding method as claimed in claim 79, wherein the predetermined value is 20480 bits.

Claims 81-86 (Cancelled)

87. (Currently Amended) A mobile communication system having a turbo encoder having input data frames of variable size, comprising:

a decoder for turbo decoding ~~data received as~~ a sub frame to output a decoded sub frame, wherein said sub frame is segmented from one original input data frame; and

a frame recomposer for combining the decoded sub frame ~~an output of the decoder~~ into the original input data frame in accordance with message information about more than one sub frames.

88. (Currently Amended) The mobile communication system as claimed in claim 87, further comprising a processor for determining a number and a size of the more than one sub frames upon receiving the message information about the number and the size of the more than one sub frames, and providing the determined number and size information to the frame recomposer.

Claims 89-90 (Cancelled)

91. (Currently Amended) A channel decoding method for a mobile communication system having a turbo encoder having input data frames of variable size, comprising the steps of:

segmenting a received data frame into a number of sub frames according to received message information[[.]], each said sub frame is segmented from one original input data frame;

turbo decoding ~~said~~ each of the sub frames ~~individually~~ separately to output decoded sub frames; and

combining the ~~turbo~~ decoded sub frames into the original input ~~received~~ data frame in response to said message information about the number of the sub frames.

Claims 92-96 (Cancelled)

97. (Currently Amended) A mobile communication system having a turbo encoder having input data frames of variable size, comprising:

a processor for determining to segment ~~one~~ the input data frame to compose a plurality of sub frames when the size of an input data frame is more than a predetermined value;

a buffer for storing the plurality of sub frames;

a first constituent encoder for encoding data of the sub frame received from the buffer;

an interleaver for interleaving the data of the sub frame;

a second constituent encoder for encoding the interleaved data; and

a channel interleaver for interleaving an encoded data frame, wherein the encoded data frame is constructed by concatenating the encoded sub frames ~~output of the turbo encoder for the input data frame~~.

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98. (Previously Presented) The mobile communication system as claimed in claim 97, the predetermined value is 20480 bits.

99. (Cancelled)

100. (Previously Presented) The mobile communication system as claimed in claim 63, wherein the turbo encoder comprises:

a first constituent encoder for encoding data of the sub frame;

an interleaver for interleaving the data of the sub frame; and

a second constituent encoder, operably connected to said interleaver, for encoding the interleaved data of the sub frame.

101. (Previously Presented) The mobile communication as claimed in claim 100, said interleaver includes an interleaving address mapper for interleaving data of said sub frame.

102. (Previously Presented) The mobile communication system as claimed in claim 63, further comprising a multiplexer for multiplexing respective outputs of the turbo encoder.

103 (Previously Presented) The mobile communication system as claimed in claim 63, further wherein the number and the size of sub frames is determined by a receiver memory size.

104. (Previously Presented) The mobile communication system as claimed in claim 63, wherein the size of said sub frames are equal.

105. (Previously Presented) The channel encoding method as claimed in claim 72, wherein the encoding step further comprises the steps of:

encoding data of the sub frame to encode the input data;

interleaving the data of the sub frame to generate a interleaved sub frame; and

encoding data of the interleaved sub frame.

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106. (Previously Presented) The mobile communication system as claimed in claim 72, wherein the number and the size of the sub frames is determined by a receiver memory size.

107. (Previously Presented) The mobile communication system as claimed in claim 72, wherein the size of said sub frames are equal.

108. (Previously Presented) The mobile communication system as claimed in claim 87, wherein said message information is received during a call setup.